



PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference P24037PC00		FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)
International application No. PCT/ZA 03/00041	International filing date (day/month/year) 26.03.2003	Priority date (day/month/year) 28.03.2002
International Patent Classification (IPC) or both national classification and IPC F42D1055, F42D1055		
Applicant SMI TECHNOLOGY (PTY) LIMITED et al.		
<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 4 sheets, including this cover sheet.</p> <p><input checked="" type="checkbox"/> This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of 10 sheets.</p>		
<p>3. This report contains indications relating to the following items:</p> <p>I <input checked="" type="checkbox"/> Basis of the opinion</p> <p>II <input type="checkbox"/> Priority</p> <p>III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p>IV <input type="checkbox"/> Lack of unity of invention</p> <p>V <input checked="" type="checkbox"/> Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p>VI <input type="checkbox"/> Certain documents cited</p> <p>VII <input type="checkbox"/> Certain defects in the international application</p> <p>VIII <input type="checkbox"/> Certain observations on the international application</p>		
Date of submission of the demand 04.09.2003		Date of completion of this report 07.06.2004
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465		Authorized Officer Herrera, M Telephone No. +49 89 2399-2090 

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**International application No. **PCT/ZA 03/00041****I. Basis of the report**

1. With regard to the elements of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17):*

Description, Pages

1-19 as originally filed

Claims, Numbers

1-37 filed with telefax on 13.02.2004

Drawings, Sheets

1/8-8/8 as originally filed

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:
- ☐ the drawings, sheets:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**International application No. **PCT/ZA 03/00041**

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes: Claims	1-37
	No: Claims	
Inventive step (IS)	Yes: Claims	1-37
	No: Claims	
Industrial applicability (IA)	Yes: Claims	1-37
	No: Claims	

2. Citations and explanations

see separate sheet

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/ZA 03/00041

Re Item V**Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

Reference is made to the following documents:

- D1: US-A-4 976 199 (MORAITIS THRASYVOULAS ET AL) 11 December 1990 (1990-12-11)
D2: EP-A-0 897 098 (SMI TECHNOLOGY PTY LIMITED) 17 February 1999 (1999-02-17)

In particular the document D1 is regarded as being the closest prior art to the subject-matter of claims 1, 16, 26 and 30 and shows (the references in parentheses applying to this document):

a blasting operation device and method with several detonator regions, wherein the shock wave caused by a detonation in a first hole is monitored at a second, spaced apart detonator region. The sensor in this second detonator region is connected via dedicated leads to a circuit controller. Different parameters of the blast are measured and communicated to a central computer, that calculates the whole blasting operation.

The subject-matter of claims 1, 16, 26 and 30 differs from this known the arrangement in D1 in that the controlling means remote from the blast receive input of determined blast features signals directly from the first detonation region or the subsequent ones, rather than receiving signals referring to the previous blast.

The subject-matter of the above claims is therefore new (Article 33(2) PCT).

The problem to be solved by the present invention may be regarded as increasing accuracy whilst diminishing complexity, in particular regarding the wiring operation.

The solution to this problem proposed in the above claims of the present application is considered as involving an inventive step (Article 33(3) PCT), since none of the available citations mention or suggest the possibility of the controlling unit sensing blast features directly from the blast region during the blast.

The dependent claims define narrower embodiments of the main invention, so that they also fulfil the requirements of Article 33 PCT.